

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



11 JUL 2005

(43) International Publication Date
29 July 2004 (29.07.2004)

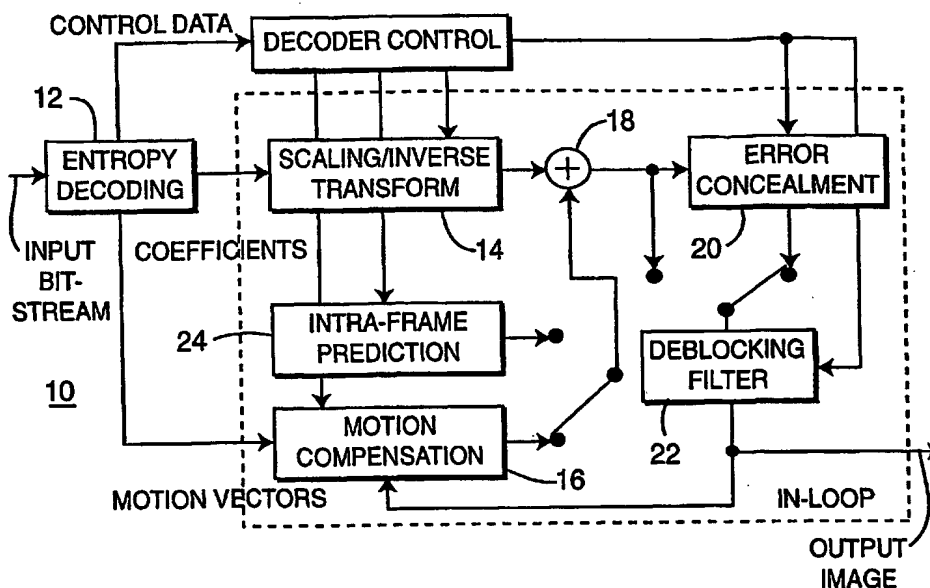
PCT

(10) International Publication Number
WO 2004/064396 A1

- (51) International Patent Classification⁷: **H04N 7/12** (74) Agents: **TRIPOLI, Joseph, S. et al.**; Thomson Licensing, Inc., 2 Independence Way, Suite 2, Princeton, NJ 08543 (US).
- (21) International Application Number: **PCT/US2003/021329**
- (22) International Filing Date: **9 July 2003 (09.07.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/439,312 **10 January 2003 (10.01.2003)** **US**
- (71) Applicant (for all designated States except US): **THOMSON LICENSING S.A.** [FR/FR]; 46 Quai A. Le Gallo, F-92648 Boulogne (FR).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **GOMILA, Cristina** [ES/US]; 25 C Chestnut Court, Princeton, NJ 08540 (US).
- (81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**
- (84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**
- Published:
— with international search report

[Continued on next page]

(54) Title: **DECODER APPARATUS AND METHOD FOR SMOOTHING ARTIFACTS CREATED DURING ERROR CONCEALMENT**



(57) Abstract: Errors in coded macroblocks are concealed during decoding by way of an error concealment stage (20) present in a decoder (10). Error-concealed macroblocks produced by the error concealment stage undergo deblocking filtering by a deblocking filter (22) before being output by the decoder to avoid the spread of erroneous pixel values. The error concealment stage (20) controls the deblocking filter (22) in accordance with the error concealment technique to vary the strength of the deblocking filter to force maximum strength on transitions artificially created by the recovery of lost macroblocks.

WO 2004/064396 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.